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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/719,975

11/21/2003

Glenn L. Beane

15344/69391E

1755

26869 7590 05/29/2009
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EXAMINER

MAI, NGOCLAN THI

ART UNIT

PAPER NUMBER

1793

MAIL DATE

DELIVERY MODE

05/29/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/719,975	Applicant(s) BEANE, GLENN L.	
	Examiner NGOCLAN T. MAI	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-55 is/are pending in the application.
- 4a) Of the above claim(s) 14-55 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-13, drawn to a method for controlling a powder press, classified in class 419, subclass 61.
 - II. Claims 14-34, drawn to a control system, classified in class 700, subclass 197.
 - III. Claims 35-45, drawn to a computer program, classified in class 700, subclass 299.
 - IV. Claims 46-49, drawn to an article, classified in class 700, subclass 213.
 - V. Claims 50-55, drawn to a press system, classified in class 425, subclass 78.

The inventions are distinct, each from the other because of the following reasons:

2. Restriction for examination purposes as indicated is proper because all these inventions listed in this action are independent or distinct for the reasons given above and there would be a serious search and examination burden if restriction were not required because one or more of the following reasons apply:

- (a) the inventions have acquired a separate status in the art in view of their different classification;
- (b) the inventions have acquired a separate status in the art due to their recognized divergent subject matter;
- (c) the inventions require a different field of search (for example, searching different classes/subclasses or electronic resources, or employing different search queries);
- (d) the prior art applicable to one invention would not likely be applicable to another invention;

Art Unit: 1793

(e) the inventions are likely to raise different non-prior art issues under 35 U.S.C. 101 and/or 35 U.S.C. 112, first paragraph.

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a invention to be examined even though the requirement may be traversed (37 CFR 1.143) and (ii) identification of the claims encompassing the elected invention.

The election of an invention may be made with or without traverse. To reserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the restriction requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144. If claims are added after the election, applicant must indicate which of these claims are readable on the elected invention.

If claims are added after the election, applicant must indicate which of these claims are readable upon the elected invention.

Should applicant traverse on the ground that the inventions are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the inventions to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

3. During a telephone conversation between Examiner Thu-Khanh Nguyen and applicants attorney Mr. Paul Remus on February 10, 2009 a provisional election was made without traverse to prosecute the invention of group I, claims 1-13. Affirmation of this election must be made by

Art Unit: 1793

applicant in replying to this Office action. Claims 14-55 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 13 recites the limitation "step of controlling the lubrication of the die cavity " in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-9, 11 and 12, are rejected under 35 U.S.C. 103(a) as being unpatentable over Hara et al. in (Patent No. 3,687,586, hereinafter referred to as "Hara") or Hermes (U.S. Patent No. 3,758,245) in view of Lashmore et al (U.S. Patent No. 5,897,826, hereinafter referred to as "Lashmore").

Concerning claims 1-3, 5, 7 and 11, Hara discloses a powder-forming press for compacting powdery or granular material into an article of uniform density by simultaneous pressing action of an upper and lower punches and by control the pressing forces exerted simultaneously by the upper and lower punches. See column 1, lines 61-67. Hara discloses

Art Unit: 1793

(column 5, lines 11-19) employing a wedge structure in the press for effecting a preliminary press stroke in the powder compressing stroke and for controlling the magnitude of the pressure applied simultaneously by the upper and lower punch.

Hermes discloses hydraulic press for compression of powder having upper punch, lower punch and die; die and upper punch operated by pistons respectively in two cylinders, there being hydraulic conduit means interconnecting the two cylinders for operating the die moving piston in dependency upon upper punch movement. A valve is connected to the conduit means and controls a hydraulic bleeder path. The valve is actuated by means connected to be responsive to the relative positions of the first and second pistons, to control the characteristics of that defining the dependency of die movement upon movement of the upper punch. See abstract. Hermes teaches during powder press working piston 2 is moved in cylinder 1 in that hydraulic pump H, as driven by motor M, causes pressure fluid to flow into the upper portion of chamber 1, above piston 2, to move the piston and upper punch 19 in down direction. Pressure fluid that has been contained in (i.e., previously pumped into) annular chamber 3, is displaced via the valves I and II, conduit 31, and the uncontrolled check valve 32 therein, to enter the annular chamber 4, as described above. However, branch 33 bleeds some of the displaced pressure liquid, as valve 7 is fully or partially open, so that annular chamber 4 is, in fact, not pressurized. As long as valve 7 is completely or partially open, outlet 34 is fully or partially effective on the end of bleeder line 33. See column 3, lines 39-52.

Hara or Hermes therefore discloses controlling a pressing of the powder material in the die by controlling the magnitude of a pressing force applied by each of at least one set of

Art Unit: 1793

workpiece-forming punches and by controlling a position of each set of workpiece-forming punches relative to the die.

Hara or Hermes differs from the claim in that Hara or Hermes does not teach controlling an introduction of a powder material into a die and controlling a creation of a substantially uniform distribution of powder material in the die;

Lashmore discloses a method for uniform delivery a quantity of particulate material into a die cavity of a powder press for compacting. The method provides for a uniform density distribution of the particles throughout the die cavity by provide a uniform, predetermined constant weight of particulate material into the die cavity. See column 1, lines 18-32 and column 4, lines 28-40). Lashmore also discloses uniformly distributing particulate material throughout all regions of a die cavity by operating to fluidize the particulate material once it is situated inside the die cavity. See column 4, lines 8-14 and column 5, lines 38-50.

It would have been obvious to one skilled in the art to include to method of delivering particulate material by controlling the weight of the particulate material and fluidizing it once inside the cavity in the method of pressing of Hara or Hermes in order to provide uniform density distribution of the particulate material before compacting as taught by Lashmore.

Concerning claim 4, Hara or Hermes in view of Lashmore do not specifically teach controlling the temperature of the powder material to be introduced into the die. However it is known in the art that particulate material can be warm compacted in a die. In warm compacting the particulate material is heated before introduced in the die cavity. In view of this fact to control the powder temperature in order to carry out die compaction would have been obvious one skilled in the art. Concerning claim 6 Hermes in view of Lashmore do not teach heating the

Art Unit: 1793

pressurized gas used to fluidize the powder material within the die. However to include such step in the method of Hara or Hermes in view of Lashmore would have been obvious in view of the fact that particulate material is heated to high temperature as stated above for warm compaction. One skilled in the art would be motivated to heat the pressurized gas in order to heat the particulate material during uniform distributing the particulate material in the die cavity.

Concerning claims 8-9 Hara or Hermes in view of Lashmore disclose the limitations. See Hara column 6, line 49 to column 7, line 19 and Hara column 3, lines 3-10.

As for claim 12, Hara or Hermes in view of Lashmore do not specifically teach after pressing completion gradually reducing the pressing force applied by each of at least one set of workpiece-forming punches while maintaining the workpiece forming punches in a substantially fixed position such that the finished part is fully supported at all times prior to ejection. However such modification would have been obvious since pressing force applied by the punches must be reduced while the part is remained in the die before injecting part in order to provide support for the part.

Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hermes and Lashmore as applied to claim 1 above and further in view of Link et al (Pat 5,906,837, hereinafter referred to as "Link").

Hermes in view of Lashmore do not specifically teach controlling the pressing of the powder material in the die by controlling a position of each set of workpiece-forming punches relative to the die comprises the steps of determining a position of each set of workpiece-forming punches, comparing the position of each set of workpiece-forming punches to a desired position,

Art Unit: 1793

and adjusting a rate of travel of each set of workpiece-forming punches based upon a result of the comparing step.

Link in the same field of endeavor discloses the claimed limitation in column 5, lines 44-56 and also column 3, lines 35-44. It would have been obvious to incorporate the method taught by Link and the combining known steps having known functions, to provide a combination having the additive effect of each of the known functions is within realm of performance of ordinary skill artisan.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NGOCLAN T. MAI whose telephone number is (571)272-1246. The examiner can normally be reached on 8:30-5:00 PM Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roy King/

Application/Control Number: 10/719,975

Page 9

Art Unit: 1793

Supervisory Patent Examiner, Art Unit
1793

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